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Radio Frequency Identification

Light Detection and Ranging

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RFID Research

In February 2002, PFC installed RFID (Radio Frequency Identification) tags in Douglas Fir seedlings. An RFID tag provides a method to have a unique identification; a serial number for each tree. With the help of foresters John Trobaugh and Jerry Barnes we place the sealed, glass RFID tags in 2 year old seedlings. Our expectation is that as the trees grow the tags will be secured inside the trees yet still be readily readable.



RFID tagged two year old seedling just after being grafted with a new leader (parent).



RFID tagged seedling six months after tag was inserted in graft.

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Jeff Mehlschau

- Introducing a mortality rate that exceeds current mortality rates of planted seedlings is unacceptable
- Tags should not hinder growth of seedlings in the field
- Delaying production up to a week is unacceptable
- Injection not viable

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Recommendation

- We strongly recommend that a survivability study be done
 - We don't know exactly how the seedlings will react to the tagging process
 - The idea is that we do not want to start tagging at a nursery and induce unacceptable mortality rates or severely hamper seedling growth
 - Acquire a test batch of bareroot seedlings
 - Tag and then plant them at a test plot at Pack Forest
 - Can construct a database and monitor seedlings for growth over the critical first four years

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Functional Requirements

- Choose a location for the RFID tag on the seedling
- Develop a method for RFID tag attachment
- Choose a time within the sorting process at which to apply the method
- Tags must be durable

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